

Nyctalus leisleri, a species new to the bat fauna of Kosovo (Chiroptera: Vespertilionidae)

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received on 24 December 2022

Abstract. The first record of *Nyctalus leisleri* in Kosovo is here described. The record site is located at Hanroc village (42°37'N, 21°17'E; 667 m a. s. l.), approximately 10 km east/southeast of the capital city of Prishtinë.

Key words. Distribution, first record, biodiversity, Kosovo, Balkans.

Information about the bat fauna of Kosovo is relatively scarce. PAUNOVIĆ (2016), in his thesis based on observations prior to 1996, listed 14 species of bats in the country, viz. *Rhinolophus hipposideros*, *R. ferrumequinum*, *R. euryale*, *R. blasii*, *Myotis daubentonii*, *M. capaccinii*, *M. mystacinus*, *M. emarginatus*, *M. myotis*, *M. blythii* (as *M. oxygnathus*), *Pipistrellus pipistrellus*, *Eptesicus serotinus*, *Plecotus auritus*, and *Miniopterus schreibersii*. New studies conducted in recent years brought important data on the Kosovo bats; PRESETNIK et al. (2018) added six new species for the fauna, namely *Myotis nattereri*, *Nyctalus noctula*, *Pipistrellus pygmaeus*, *P. kuhlii*, *Plecotus austriacus*, and *Tadarida teniotis*. However, not all of them were covered by the Red Data Book of Kosovo (IBRAHIMI et al. 2019), where only 16 species were included: *Rhinolophus blasii*, *R. ferrumequinum*, *R. euryale*, *R. hipposideros*, *Miniopterus schreibersii*, *Myotis myotis*, *M. blythii*, *M. capaccinii*, *M. daubentonii*, *M. mystacinus*, *M. nattereri*, *Pipistrellus pipistrellus*, *P. pygmaeus*, *Plecotus auritus*, *P. austriacus*, and *Vespertilio murinus*. The latter species (*V. murinus*) was reported there from Kosovo for the first time. Records of two bat species from Kosovo were provided by THÉOU et al. (2019) and four species by BENDA et al. (2019). As a result of all these studies, the occurrence of 21 bat species in Kosovo was shown.

Here we aim to give the first report on *Nyctalus leisleri* from Kosovo, together with some morphological and ecological observations, contributing to the bat fauna of the country. The individual was obtained during a zoological trip to Kosovo on 29 April 2022, in a garden umbrella in front of a countryside restaurant (42°37'N, 21°17'E). The bat was found in the Hanroc village, in the municipality of Lipjan, at the altitude of 667 m a. s. l., and near the Klisura stream flowing into the Badovc lake. Remains of dense forests are adjacent to the site, the vegetation is dominated by beeches (*Fagus* sp.) and oaks (*Quercus* sp.), see Fig. 1. Additional searches did not bring other bat findings.

The bat specimen was collected and preserved in 70% alcohol. It is a subadult female (Fig. 2) with the following external data: body length 57 mm, tail length 41 mm, forearm length 45.4 mm, hind foot length 4.6 mm, ear length 14.2 mm, ear width 9.5 mm, tragus length 4.2 mm, tragus width 3.7 mm, and body mass 13 grams. Fur colour is brown, hairs are darker at the base than at the tip, the face, ears and wings are dark.

Of the three *Nyctalus* species inhabiting Europe, only the common noctule, *Nyctalus noctula* (Schreber, 1774), is known from Kosovo (PRESETNIK et al. 2018). DIETZ & VON HELVERSEN (2004) reported that the

doi: 10.37520/lynx.2023.019



Fig. 1. Habitat of *Nyctalus leisleri* occurrence in Hanroc near Lipjan. Photo by F. GASHI.



Fig. 2. A subadult female of *Nyctalus leisleri* caught as a first of its species in Kosovo. Photo by F. GASHI.

three *Nyctalus* species are well differentiated from each other by their body size and can be identified using only the forearm length. On the other hand, *N. leisleri* is a type of bat distributed in a wide range across Europe. It is known to occur in the surrounding countries, such as Greece (GEORGIAKAKIS et al. 2023), Bulgaria (BENDA et al. 2003), Serbia (PAUNOVIĆ 2016), or Albania (BENDA et al. 2019). However, no records had been known in Kosovo till now, when the number of bat species has increased to 22. This number is expected to increase with further research – PRESETNIK et al. (2018) supposed at least 30 bat species could be found in Kosovo.

A c k n o w l e d g e m e n t

Many thanks go to Përparim GASHI for his help.

REFERENCES

- BENDA P., IVANOVA T., HORÁČEK I., HANÁK V., ČERVENÝ J., GAISLER J., GUEORGUIEVA A., PETROV B. & VOHRALÍK V., 2003: Bats (Mammalia: Chiroptera) of the Eastern Mediterranean. Part 3. Review of bat distribution in Bulgaria. *Acta Societatis Zoologicae Bohemicae*, **67**: 245–357.
- BENDA P., ŠEVČÍK M., BEGO F., SACHANOWICZ K., SPITZENBERGER F., TÁJEK P., TÁJKOVÁ P. & UHRIN M., 2019: Bats (Mammalia: Chiroptera) of the Eastern Mediterranean and Middle East. Part 15. The fauna of bats and bat ectoparasites of Albania with a catalogue of bats from the western Balkans in the collection of the National Museum, Prague. *Acta Societatis Zoologicae Bohemicae*, **83**: 1–238.
- DIETZ C. & VON HELVERSEN O., 2004: *Illustrated Identification Key to the Bats of Europe*. Electronic publication. Tübingen & Erlangen, 72 pp.
- GEORGIAKAKIS P., KAFKALETOS DIEZ A., SALVARINA I., BENDA P., BILLINGTON G., DIETZ C., BILLINGTON J., COVE D., DAVISON S., COOKE M. & PAPADATOU E., 2023: The bats of Greece: an updated review of their distribution, ecology and conservation. *Animals*, **13**(15; 2529): 1–49.
- IBRAHIMI H., GASHI A., REXHEPAJ D., ZHUSHI ETEMI F., GRAPCI KOTORI L., FEHÉR Z., BINO T., ŠERIĆ JELASKA L., MESAROŠ G. & THÉOU P., 2019: *Libri i Kuq i Faunës, së Republikës së Kosovës [The Red Data Book of the Fauna of the Republic of Kosovo]*. Ministry of Environment and Spatial Planning & Kosovo Institute for Nature Protection, Prishtinë, 402 pp (in Albanian).
- PAUNOVIĆ M. M., 2016: *Rasprostranjenje, ekologija i centri diverziteta slepih miševa (Mammalia, Chiroptera) u Srbiji [Distribution, Ecology and Centres of the Bat Diversity (Mammalia, Chiroptera) in Serbia]*. Unpubl. PhD. thesis. Biološki Fakultet, Univerzitet u Beogradu, Beograd, 479 pp (in Serbian, with a summary in English).
- PRESETNIK P., DUNDAROVA H., FIEDLER W., GASHI F., HOXHA L., PAVLOVIĆ E. & THEOU P., 2018: A start of systematic bat survey of Kosovo? P. 27. In: MULAOMEROVIĆ J. & MILANOLO S. (eds.): *Regional Symposium “Conservation Status of Bats in the Central Europe and Western Balkan”*. Sarajevo, 31. 5. – 1. 6. 2018. *Program and Book of Abstract*. Center for Karst and Speleology, Sarajevo, 52 pp.
- THÉOU P., GASHI F., PAVLOVIĆ E. & PRESETNIK P., 2019: First survey of bridges as potential bat roosts in Kosovo. *Hypsugo*, **4**: 4–14.